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ABSTRACT

The Summer High School Remediation Program was designed to provide remedial instruction for 11th and 12th grade pupils who were two or more years below grade level in reading and/or mathematics. Instruction was provided during the day at four high schools and, in addition, one of the schools conducted an evening session. All participants attended a daily 90 minute period of individualized instruction for a total of 29 sessions. All participants were administered a criterion referenced test (CRT) developed by SRA on a pre/post test basis. As a result of being in the remediation program, pupils were expected to demonstrate mastery of at least two instructional objectives, in reading and/or mathematics. The analysis of pre/post test scores of 807 students in reading and 229 in mathematics showed improvement in skills and a fullfillment of program objectives. The use of the criterion referenced test as a diagnostic tool and a highly individualized instructional approach were found in all schools. (Author/AM)

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EVALUATION REPORT

Function No. 0971611

SUMMER HIGH SCHOOL REMEDIATION PROGRAM

EVALUATION PERIOD

July 6, 1976 - August 13, 1976

Lenore Kelly, Ph.D.

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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An evaluation of a New York City School District educational project funded under Title I of the Elementary and Secondary Education Act of 1965 (PL 89-10) performed for the Board of Education of the City of New York for the summer of 1976.

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Chapter I: The Program

The Summer High School Remediation Program was designed to provide remedial instruction for eleventh and twelfth grade pupils who were two or more years below grade level in reading and/or mathematics. Instruction was provided during the day at four high schools and, in addition, one of these schools conducted an evening session. All participants were to attend a daily 90 minute period of individualized instruction throughout the interval July 6th to August 13th for a total of 29 sessions. However, with days set aside for testing, initial and closing classes and distribution of grades, actual class instruction days totaled 22.

In May, information about the remediation program had been sent to all high schools with eligible pupils who might be attending summer tax levy schools. Eleventh and twelfth grade students were considered eligible for the program if they were two or more years below grade level in reading or mathematics. They were enrolled primarily on the basis of referrals from their high school counselors or teachers, with some voluntary enrollment by the students themselves.

All participants in the program were administered a criterion referenced test (CRT) developed by SRA on a pre/post test basis. As a result of being in the remediation program, pupils were expected to demonstrate mastery of at least two instructional objectives, in reading and/or mathematics, which prior to participation in the program, they did not master.

The program was staffed by two teachers-in-charge, two general assistants/teacher trainers, 23 classroom teachers, 23 educational

assistants and two school secretaries. Initial planning had been for 13 teachers and aides to instruct 540 students in reading and 9 teachers and aides for 375 mathematics students. When initial enrollment figures indicated a high enrollment in reading (898) and a lower enrollment in mathematics (323), the number of mathematics teachers was reduced to 8 and reading teachers were increased to 15.

Since the major thrust of the program was toward individualized instruction, it was intended that class size be limited to 15. Mathematics classes did approximate this number yet all but one reading class exceeded this requirement.

On the first day of the summer program, separate training sessions were conducted by the teachers-in-charge for participating staff. A well organized and detailed description was given of the basic procedures to be followed. Instruction was given in the use of the CRT as a diagnostic and prescriptive technique for remediation and material for its administration was distributed.

During the initial orientation sessions, a variety of methods, including games and the use of the Daily News as an instructional tool, were suggested and demonstrated. Besides manuals for the SRA and taxonomies, each reading teacher was given the following to complete a folder for each student: Profile Sheets, Assignment Sheets, Answer Sheets, Conversion Tables, Student Interviews and Independent Reading Records. Similar pertinent materials, including further diagnostic tests, were given to mathematics teachers for their student folders. Also distributed was a clear outline of the role of the educational assistant.

It was suggested that in reading, activities include three phases: group activities such as play reading and use of The Daily

News; individualized activities to strengthen student weaknesses, and independent reading which gave students the opportunity to read matter of their own choice for pleasure. In mathematics, group and individualized activities which focused on computational and problem solving skills, were encouraged, along with games, machines and the use of The Daily News.

The materials used in the program were the same as those in the year round program. In June, letters had been sent to each site requesting specific materials and the extent to which the requests were met depended on the particular site. In mathematics, such materials included Learning to Compute, Practical Applications in Mathematics, Arithmetic Skills Kit and Workbook, Math for Today, games, calculators and machines. In reading, there was an extensive array of materials, including kits such as SRA, Heath, EDL, RFU and paperback books for independent reading.

In most instances, pretesting occurred on the day following the orientation session. Then, a Profile Sheet was filled out for each student indicating up to 15 possible areas of weakness diagnosed from the CRT. For mathematics students, the 15 objectives dealt with place value, addition, subtraction, multiplication, division, fractions, decimals and percentages. For reading students, the 15 objectives covered word attack skills, study skills, comprehension and interpretation. Based on each pupil's weaknesses, a course of work was prescribed to each student. Besides individual folders, a record was kept by the teacher for each student on a Class Evaluation Record indicating objectives mastered or not mastered on the CRT.

The two teachers-in-charge, who conducted the orientation meetings, directed the operation of the entire program and, where

feasible, they shared work load and responsibilities. They were responsible for the hiring of staff, the training of teachers and educational assistants, selection of materials, on-site observation, and supervision of the testing program for evaluation. Each was assisted by a teacher trainer in establishing either the reading or mathematics laboratory in the use of individualized instructional materials and demonstration of lessons. Each teacher trainer made a minimum of five visits to each site, supervised the work of the teachers and educational assistants and assisted them in carrying out the instructional methodology.

All of the teachers and many of the educational assistants had previous experience in summer remedial programs and/or school year remediation programs. They were helped in the classroom by an educational assistant. These paraprofessionals worked under the direct supervision of a teacher and assisted them in the preparation and organization of materials, and in tutoring individual students.

Chapter II: Evaluation Procedures

There were three evaluation objectives set forth in the Evaluation Design:

1. "To determine if, as a result of participation in the program, 70 percent of the participants will demonstrate mastery of at least two instructional objectives, in reading and mathematics, which prior to participation in the program, they did not master."
2. "To determine, as a result of participation in the program, the extent to which pupils demonstrate mastery of instructional objectives."
3. "To determine the extent to which the program, as actually

carried out, coincided with the program as described in the Project Proposal."

In the original Evaluation Design, the first objective had specified mastery of at least "one instructional objective" but this was later modified to read "two instructional objectives."

In order to determine mastery of instructional objectives, students were given the same form of the CRT developed by SRA on a pre/post test basis. The initial testing occurred during the first week of the program, mostly on July 7th and 8th, and the final testing took place during the last week, either on August 10th or 11th.

For each student, data was recorded on the Class Evaluation Record for the instructional objectives which were mastered or failed on the pre/post tests. A student was considered to have mastered an objective if he correctly answered two out of three questions relating to that objective. The results were analyzed to determine the percentage of participants demonstrating mastery of each instructional objective. From those who had shown weakness on two or more objectives in the pretest, the percentage of students passing two or more objectives was also determined.

Of the 1221 students enrolled in the program, 898 were in reading and 323 in mathematics. Because of truancy or not completing the program, data on pre/post testing was incomplete for 91 pupils in reading and 94 in mathematics. (28 were absent from the posttest and 157 were discharged from the program before its completion.) Thus, the total number of students evaluated on the CRT was 807 in reading and 229 in mathematics. (For details, see OEE Data Loss Form, Appendix C.)

In order to determine the extent to which the program was implemented as stated in the proposal, the evaluator attended

orientation meetings, interviewed and met with the teachers-in-charge, teacher trainers, classroom teachers, educational assistants and made classroom observations at the beginning and end of the session at each of the five program sites. The evaluator also examined all of the routine curriculum materials used in the project and questionnaires issued by the teachers-in-charge at the conclusion of the program.

Chapter III: The Findings

A. Data Analysis

Among the 807 reading students and 229 mathematics students who had pre/post test scores, there were 7 in mathematics and 91 in reading who had mastered either 14 or 15 objectives on the pretest. These latter participants were omitted from the analysis for objective one. From the remaining group, the test results show that 76% of the 718 reading students and 75% of the 222 mathematics students achieved mastery of two or more instructional objectives which prior to the program they had not mastered. Thus, within a very short span of time, students have showed substantial gains and the first objective has been met.

As was mentioned in the Evaluation Design, mastery of an instructional objective was based on the correct answering of 2 out of 3 questions. There was discussion among program personnel that three correct answers would be a more valid judge of mastery for future use.

The second evaluation objective was directed at determining the extent to which pupils, as a result of participation in the program, demonstrated mastery of specific instructional objectives. The Tables RA and MA show the distribution of pupil mastery by each

TABLE 8A

DISTRIBUTION OF PUPIL MASTERY IN READING BY INSTRUCTIONAL OBJECTIVE AS A RESULT OF INSTRUCTION

Instructional Objective	Ratio of # pupils achieving mastery / # pupils attempting mastery	Percentage of Mastery
1	74/ 87	85%
2	94/125	75%
3	218/322	68%
4	44/ 54	81%
5	43/ 66	65%
6	84/130	65%
7	43/ 56	77%
8	38/ 43	88%
9	262/488	54%
10	239/391	61%
11	175/268	65%
12	205/453	45%
13	212/403	53%
14	79/113	70%
15	196/389	50%

TABLE 8A

DISTRIBUTION OF PUPIL MASTERY IN MATHEMATICS BY INSTRUCTIONAL OBJECTIVE AS A RESULT OF INSTRUCTION

Instructional Objective	Ratio of # pupils achieving mastery / # pupils attempting mastery	Percentage of Mastery
1	30/ 43	70%
2	27/ 51	53%
3	3/ 5	60%
4	1/ 2	50%
5	2/ 3	67%
6	22/ 34	65%
7	17/ 22	77%
8	63/ 96	66%
9	67/148	45%
10	75/185	41%
11	59/187	32%
12	78/155	50%
13	55/140	39%
14	56/182	31%
15	42/196	21%

instructional objective in reading and mathematics, respectively. A glance at the tables shows that, in general, there is an increased number of students attempting mastery and a smaller percentage achieving mastery as one moves from objective 1 to 15. Thus, the exam appears to diagnose not only different problem areas but also areas of increasing difficulty.

It was noted earlier that in reading there were 91 students and 7 in mathematics who had mastered all, or all but one, of the objectives on the pretest. Also, it is evident from the number attempting mastery that certain instructional objectives were initially mastered on the pretest by all but a few of the students. This was particularly the case in mathematics for objectives 3, 4 and 5 which dealt with addition and simple subtraction. Moreover, fewer than 10% of the students failed to master mathematics objective 7 (multiplication) and reading objectives 4, 7 and 8 (compound words, synonyms and antonyms).

On the basis of these tables and teacher interviews, two recommendations are suggested: a revision of the CRT and the development of alternative forms of the CRT. Because the CRT exams deal with only 15 selected instructional objectives, it might be more valuable to eliminate some or all of the aforementioned objectives which most students appear to have mastered prior to the summer session. In their place, other more complex and difficult areas, such as objective 15 in reading (inference) could be divided into two objectives which test different levels of ability or totally new objectives might be included. For example in mathematics, although the program was aimed at improving problem solving skills, there were no related questions on the CRT. It was generally held by mathematics teachers

that the CRT was accurate enough to identify an area but further diagnostic tests were needed to identify specific problems.

Also to be considered is the possibility of devising various forms of the CRT which would be geared to students at different levels. Several teachers in reading commented that the present form of the CRT was geared to the sixth or seventh grade level and did not diagnose the difficulties of the more advanced student. The fact that the CRT was not a timed exam and thus allowed students to work at their own pace was seen as something positive.

The findings shown in Table RB and MB indicate that the largest number of students mastered from one to three objectives, with a small number demonstrating mastery of either none or four or more objectives.

TABLE RB

DISTRIBUTION OF THE NUMBER OF INSTRUCTIONAL OBJECTIVES IN READING THAT WERE MASTERED AFTER INSTRUCTION

Number of Objectives Mastered	Number of Pupils	Percentage of Pupils
11	1	0%
10	2	0%
9	5	1%
8	6	1%
7	11	1%
6	27	3%
5	48	6%
4	92	12%
3	163	21%
2	194	25%
1	158	20%
0	83	11%

Taking into account that the number of objectives to be mastered varied by each student, Tables RC and MC indicate the percentage of mastery that occurred between the pretest and the posttest. In reading, most of the students were clustered above the 50

TABLE 1B

DISTRIBUTION OF THE NUMBER OF INSTRUCTIONAL OBJECTIVES IN MATHEMATICS THAT WERE MASTERED AFTER INSTRUCTION

Number of Objectives Mastered	Number of Pupils	Percentage of Pupils
8	4	2%
7	3	1%
6	11	5%
5	13	6%
4	27	12%
3	53	23%
2	56	25%
1	37	16%
0	22	10%

TABLE 1C

DISTRIBUTION OF PERCENTAGE OF PUPILS ACHIEVING VARIOUS LEVELS OF MASTERY OF INSTRUCTIONAL OBJECTIVES IN READING

Percentage of Mastery of Instructional objectives	Number of Pupils	Percentage of Pupils
90-100%	205	26%
80-89%	58	7%
70-79%	67	8%
60-69%	115	15%
50-59%	110	14%
40-49%	39	5%
30-39%	60	8%
20-29%	44	6%
10-19%	9	1%
0- 9%	83	11%

TABLE 1D

DISTRIBUTION OF PERCENTAGE OF PUPILS ACHIEVING VARIOUS LEVELS OF MASTERY OF INSTRUCTIONAL OBJECTIVES IN MATHEMATICS

Percentage of Mastery of Instructional Objectives	Number of Pupils	Percentage of Pupils
90-100%	23	10%
80-89%	16	7%
70-79%	12	5%
60-69%	19	8%
50-59%	38	17%
40-49%	15	7%
30-39%	30	13%
20-29%	34	15%
10-19%	17	8%
0- 9%	22	10%

percentage level and in mathematics, they were in the 20% to 60% range. Omitted from the analysis for both Tables B and C were 17 reading and 3 mathematics students who had mastered all instructional objectives prior to participation in the program.

A special coding was introduced toward the end of the session by the teachers-in-charge which would allow another type of analysis but it was not incorporated in this report. The present design considers all the objectives failed on the pretest as ones attempted during the session. It was suggested that a record be kept not only of the objectives failed but also of those which were formally attempted by the student during the session. If this method were used, there would be a higher percentage of mastery in both reading and mathematics.

The same form of the CRT, developed prior to the summer program, was given for both pre/post testing. The fact that the final test would be the same as the initial one was not known to the teachers until near the end of the session. Not knowing that the same instrument would be used, it is possible that some teachers used sections of the exam as a basis for instruction. Moreover, in reading classes, student folders were likely to contain a record of the numbers of questions which were answered correctly or incorrectly on the pretest. Thus, an important unanswered question is whether improvement on the posttest was affected by the use of the same form of the exam.

B. Discrepancy Findings

With few exceptions, the program was observed to coincide with the description in the Project Proposal. Observations of classroom instruction, materials and individual student folders confirmed that

individualized work prescriptions were based on each pupil's weakness as diagnosed on the CRT. Student Progress Sheets indicated that pupils were following a course of study geared to their own needs and were progressing at their own rate.

As was mentioned in the program description, total enrollment, number of teachers and individual class sizes in reading exceeded the initial projections, while in mathematics, they fell slightly below. An examination of class registers showed the median class size to be 22 for reading and 15 for mathematics. It was particularly in the evening session that reading class size was largest. This occurred despite the fact that only evening school students and twelfth graders who were below eighth grade reading level were admitted. Teachers felt that with an educational assistant and the strong motivation of the students, they were able to deal with the large number. In mathematics, fewer than half of the classes exceeded 15 and since mathematics classes tended to have a higher rate of discharge, final classes tended to fall within the required size.

The teachers-in-charge experienced some difficulties in hiring experienced educational assistants. An effort was made to place them in schools where they were most prepared to relate to students. In a few instances, the educational assistant had little or no experience in the subject area and found it difficult to develop rapport with the students.

Because reading students want to achieve an 8.0 reading level for diploma, it is likely that large enrollments in the reading remediation program will continue. Until such time as there is a similar requisite in mathematics for the attainment of diploma, recruitment of 11th and 12th graders will continue to be a problem. Many

mathematics classes began with three or four students and only through the recruitment efforts of teachers and the cooperation of the teachers-in-charge in the particular sites did classes reach a number which justified their continuance. The late notification of funding approval and therefore, the lack of certainty that the program would be in operation, was seen by the teachers-in-charge as a hindrance in recruitment. A more active participation of mathematics teachers and teacher trainers in recruitment from the year round program was suggested by two teachers.

Another discrepancy mentioned earlier was the reduced number of actual instructional days, from the planned 29 to 22 days. Teachers and teachers-in-charge regretted using three to four potential instructional days for testing. In most instances, one day was needed for the posttest but two days were needed for the pretest because large numbers were late in registering. Since most reading students were enrolled in the summer program to attain an 8.0 reading level, the teachers-in-charge set an additional day during the last week for the PAT exam. It was felt that this was an important service to be provided for the students, particularly for those who had completed four years of high school.

A further discrepancy exists in the lack of coordination between the New York State Instructional Mastery Code and the SRA objectives. There were minor discrepancies in reading but as is evident from Table 1, it was particularly noticeable for mathematics. An obvious suggestion is the revision of the New York State Instructional Mastery Code. Also to be considered is the devising of some other method for reporting information.

TABLE I

COMPARISON OF NEW YORK STATE INSTRUCTIONAL MASTERY CODE WITH PUBLISHER'S OBJECTIVES

NYS Code	New York State Objective	SRA Objective
1103	Fractions	Addition of fractions
1103	Fractions	Subtraction of fractions
1103	Fractions	Multiplicatn of fractions
1103	Fractions	Division of fractions
1104	Decimals	Multiplicatn of decimals
1104	Decimals	Division of decimals
1107	Addition	Addition
1107	Addition	Addition (more complex)
1108	Subtraction	Subtraction
1108	Subtraction	Subtraction (more complex)
1109	Multiplication	Multiplication
1110	Division	Division
1116	Percent	Percent
1117	Place Value	Place value
1117	Place Value	Place value (more complex)
2102	Initial Consonants	Initial consonants
2105	Consonant Blends	Initial blends
2106	Vowels: Single Letters	Vowels
2201	Compound Words	Compound words
2202	Contractions	Contractions
2204	Prefixes, Suffixes, Affixes	Prefixes
2301	Antonyms	Antonyms
2304	Synonyms	Synonyms
2403	Inferences, Cause or Effect	Inference
2404	Facts and Details	Facts and details
2406	Main Ideas	Main ideas
2501	Titles, Table of Contents	Index
2503	Aids: References, Ftnotes, Bibliog.	Map Reading
2505	Presentation of Text Material	Dictionary Skills
2507	Abbreviations, Acronyms	Social Studies vocabulary

C. Facilities

The remediation program was supplemental to the tax levy high school program being offered in the same schools. Prior to the summer program, teachers-in-charge of the five sites were contacted and requests were made for specific classrooms. Usually the classrooms were chosen because the reading or mathematics labs were located in or near these rooms during the regular school year. Their choice provided easy access to the labs, machines and supplemental materials.

Moreover, it was observed that, except where class size was largest, the rooms were spacious, well lighted and tables, desks and chairs were arranged in informal groupings. The students appeared to work conscientiously and continuously. They were relaxed, well behaved and appeared motivated to learn. The total atmosphere was conducive to learning and to individual and small group instruction.

D. Materials

Materials were the same as those used during the regular school year. A few reading teachers saw this as a disadvantage because a number of students were already familiar with them. However, most felt that this was not a problem because there was such a wide variety of materials available and the number of instructional days was limited.

While the materials are geared to individualized instruction, many of them are based on knowledge of reading level. The fact that the CRT does not provide a grade equivalency score was seen as a limitation by some staff. Although there was a section on the student's application forms for the home school to complete regarding reading score, it was not a satisfactory way of determining a score. For some, the score was missing, for others it was outdated. However, many teachers did use past scores as indicators and made adjustments according to the student's progress.

There was some discussion about the adequacy of materials for certain areas diagnosed on the CRT, such as study skills. The teacher trainers helped to make teachers aware of the existence of such materials which in many cases was available to the more experienced eye.

The Daily News was used most effectively in reading classes as an instructional tool and for independent reading. Only one mathematics teacher was observed using the paper for instruction.

E. Needs of the Target Population

The program does appear to be serving the needs of the population which attended the summer session. However, at one site, 11th graders were not accepted into the program because of the limited funding. Within a limited time period, all but 24% of the students in reading and 25% in mathematics mastered two or more objectives and the first evaluation objective was fulfilled.

While the attainment of 8.0 grade level was not an evaluation objective, it was the objective of the reading students themselves. For the 799 reading students who were administered the MAT during the last week, 263 (33%) of them did achieve 8.0 or more.

Since the expressed need of the students who participated in the reading component was the attainment of eighth grade reading score, there was question on the part of all reading personnel whether an instructional approach based on the CRT, although worthwhile, was the best approach for meeting the students' immediate need: the attainment of 8.0 and a diploma. In the mathematics component, there was far greater satisfaction that the CRT approach was workable for the students served.

F. Implementation of Recommendations from Prior Study

The high school remediation program was the first of its kind. In the summer 1975, there were two separate programs. The Remedial Reading Skills Program was similar to the present reading component, and a Summer Mathematics Remediation for Incoming Pupils was for

incoming 9th and 10th grade pupils. The previous reading program made recommendations which are relevant to the present program. It recommended that a diagnostic pre/post test be used and this was incorporated as an integral part of the program. Besides a recommendation that the program be refunded, two other recommendations had been made: one in reference to developing a mechanism to select reading personnel and another regarding hiring of experienced paraprofessionals. The development of a mechanism for selecting reading personnel appears to be outside the scope of a summer program. However, it should be noted that without a formal mechanism, all of the teachers had prior experience in remediation programs as did most of the educational assistants. The difficulty in hiring experienced educational assistants appeared to be because either they could find more attractive means of income or were continuing their education.

Three recommendations made from the former mathematics program appear to be relevant for the 11th and 12th grade students in this program. It was recommended that aides devote more time to tutoring in the classroom, and from observations and teachers' comments, it was apparent that the educational assistants did spend the greatest portion of their time in tutoring. A second recommendation was to give high school credit for summer work. However, credit cannot be given because it violates the guidelines of Title I Programs. A third was the recommendation that the program evaluation be made from the day to day progress in mathematics skills as noted on the Student Progress Sheet. Because the CRT was used, this recommendation was not incorporated. However, the teachers-in-charge of both programs did not outrule its usefulness for future evaluations.

Chapter IV: Summary of Major Findings, Conclusion and Recommendations

A. Summary of Major Findings

The Summer High School Remediation Program administered the criterion referenced tests to all students on a pre/post basis to provide the base for an individualized work prescription as well as a means for assessing progress. The program did meet the objectives set forth in the Evaluation Design. After approximately 22 instructional days, 76% of the reading students and 75% of the mathematics students achieved mastery of two or more instructional objectives which prior to the program they had not mastered. Staff was well qualified and experienced, and facilities and materials were adequate to carry out the program as outlined in the proposal.

B. Conclusion

Considering the enthusiasm of staff and students and the impressive gains in achievement both in reading and mathematics, the program can be considered operationally successful.

C. Recommendations

On the basis of the above findings and conclusion, it is strongly recommended that the program be recycled for summer 1977. In addition, specific recommendations follow:

1. Revise the criterion referenced tests (CRT) for reading and mathematics. Review which objectives are to be included and consider the development of forms which would identify different levels of ability for these tests.
2. Develop separate forms of the CRT for the pretest and posttest.
3. Consider mastery of an instructional objective to be the correct

answering of three out of three questions rather than two out of three.

4. Incorporate the MAT exam for the reading component for those 12th graders who require an 8.0 grade level for a diploma, to be given at the conclusion of the program.
5. Expand the number of instructional days by lengthening the summer session.
6. Maintain mathematics and reading as components of the same program rather than as separate operations, as took place in the Summer 1975 programs.
7. Provide adequate workshop funding to assist teachers in making full use of materials in a diagnostic-prescriptive approach to skills improvement.
8. Devise new methods of recruitment for students in the mathematics component.

Appendix A

PROGRAM ABSTRACT

Title: Summer High School Remediation Program B/E# 09-71611

Component Codes: 60816 (Reading), 60916 (Mathematics)

Activity Code: 712

Program Description and Instrumentation

The Summer High School Remediation Program, conducted at five sites, served 1221 eleventh and twelfth grade pupils who were two or more years retarded in reading and/or mathematics. The main objective of the program was to improve the mathematics and/or reading skills of the participants. Criterion referenced tests developed by SRA were administered to all students on a pre/post basis to provide the base for an individualized work prescription as well as a means for assessing progress.

Summary of Findings

The analysis of pre/post test scores of 807 students in reading and 229 in mathematics clearly shows improvement in skills and a fulfillment of the program objectives. The pretest indicated that 718 of these students in reading and 222 students in mathematics showed weakness in two or more objectives. When the posttest was administered at the end of the session, 76% of the reading students and 75% of the mathematics students achieved mastery of two or more instructional objectives which prior to the program they had not mastered.

All sites were visited several times and it was observed that the reading and mathematics labs tended to be functioning as described in the Project Proposal. The few discrepancies that were observed are detailed in the narrative. The use of the criterion referenced test as a diagnostic tool and a highly individualized instructional approach were found in all schools in an atmosphere most conducive to learning. However, the problem of non-correspondence between the New York State Mastery Codes and the Publisher's Objective Codes remains a persistent one.

Conclusion and Recommendation

It is concluded that, to a high degree, the program met the objectives for reading and mathematics as stated in the proposal and evaluation design. On the basis of such positive findings, it is recommended that the program be recycled. Specific recommendations are to be found in the narrative report.

SECTION II Table 13: Criterion Referenced Test Results — Title I: B/E Function # 09-71611

Name of Program: Summer High School Remediation Program — D a t e: Summer Program 1976

Component Code (Handicap Code 00)	N. Y. S. Instructional Mastery Code	Publisher SRA/Criterion-Referenced Measurement Program 001074 (1974)	Level	Pretest No. of Pupils		Posttest No. of Pupils	
				Passing (1)	Failing (2)	from Col.(2) Passing (3)	from Col.(2) Failing (4)
60816	2102	WA-7	Primary	720	87	74	13
	2105	WA-1	Primary	485	322	218	104
	2106	WA-11	Primary	682	125	94	31
	2201	V-5	Primary	753	54	44	10
	2202	V-8	Primary	741	66	43	23
	2204	V-20	Primary	677	130	84	46
	2301	V-52	Interm.	764	43	38	5
	2304	V-51	Interm.	785	22	17	5
	2403	5C27-H 5C22-E 5C22-P	Advanced	418	389	196	193
	2404	5C24-J 5C24-H 5C24-B	Interm.	694	113	79	34
	2406	5C27-J 5C27-B 5C22-BB	Interm.	404	403	212	191
↓	2501	SS-7 ↓	Advanced	416	391	239	152

(See Continuation Sheets)

Name of Progr.: Summer High School Remediation Program NYC B/E Function #09- 71611 S.S. 1976

Component Code (Handicap Code 00)	N. Y. S. Instructional Mastery Code	Publisher	Level	Pretest No. of Pupils		Posttest No. of Pupils	
				Passing	Failing	from Col.(2) Passing	from Col.(2) Failing
		SRA/CRMP ('74)		(1)	(2)	(3)	(4)
60816	2503	SS-39	Advanced	539	268	175	93
	2505	SS-18		354	453	205	248
	2507	V-72		319	488	262	226

NEW YORK STATE EDUCATION DEPARTMENT
MAILED INFORMATION REPORT FOR CATEGORICALLY AIDED EDUCATION PROJECT

SECTION II Table 13: Criterion Referenced Test Results — Title I: B/E Function # 09-71611

Name of Program: Summer High School Remediation Program — D a t e: Summer Program 1976

Component Code (Handicap Code 00)	N. Y. S. Instructional Mastery Code	Publisher SRA/Criteron-Referenced Measurement Program 001066 (1974)	Level	Pretest No. of Pupils: Passing (1)	Pretest No. of Pupils: Failing (2)	Posttest No. of Pupils: from Col.(2) Passing (3)	Posttest No. of Pupils: from Col.(2) Failing (4)
60916	1103	F27	Interm.	81	148	67	81
	1103	F33	Interm.	44	185	75	110
	1103	F37	Interm.	42	187	61	126
	1103	F39	Interm.	74	155	78	77
	1104	F46	Interm.	89	140	55	85
	1104	F48	Interm.	47	182	56	126
	1107	W28	Primary	224	5	3	2
	1107	W31	Primary	227	2	1	1
	1108	W34	Primary	226	3	2	1
	1108	W37	Primary	195	34	22	12
	1109	W44	Primary	205	24	18	6
	1110	W55	Primary	133	96	63	33

CONVERSION TABLE OF NEW YORK STATE OBJECTIVE CODES TO PUBLISHER'S CODES

N.Y.S. Mastery Code	Publisher's Code	Name of Objective	Component Code (Handicap Code 00)				N. Y. S. Instructional Mastery Code			Publisher	Level	Pretest No. of Pupils Passing (1)	Pretest No. of Pupils Failing (2)	Posttest No. of Pupils from Col.(2) Passing (3)	Posttest No. of Pupils from Col.(2) Failing (4)
			6	0	9	1				SRA/CRMP ('74)					
1103	F27	Addition of fractions				6	1	1	1	F75	Intern	33	196	42	154
1103	F33	Subtraction of fractions					1	1	7	W11	Primary	186	43	30	13
1103	F37	Multiplictn of fractions								W12	Primary	178	51	27	24
1103	F39	Division of fractions													
1104	F46	Multiplictn of decimals													
1104	F48	Division of decimals													
1107	W28	Addition													
1107	W31	Addition (more complex)													
1108	W34	Subtraction													
1108	W37	Subtraction (more complex)													
1109	W44	Multiplication													
1110	W55	Division													
1116	F75	Percentage													
1117	W11	Place value (3 digit)													
1117	W12	Place value (4+digits)													

Appendix C

OFFICE OF EDUCATIONAL EVALUATION - DATA LOSS FORM

(attach to MIR, item #30) Function # 09-71611

In this table enter all data loss information. Between MIR, item #30 and this form, all participants in each activity must be accounted for. The component and activity codes used in completion of item #30 should be used here so that the two tables match. See definitions below table for further instructions.

Component Code	Activity Code	(1) Group I.D.	(2) Test Used	(3) Total N	(4) Number Tested/ Analyzed	(5) Participants Not Tested/ Analyzed		(6) Reasons why students were not tested, or if tested, were not analyzed	
						N	%		Number/ Reason
60816	712	16	SRA	898	807	91	10	20 absent from posttest 71 discharged	 91
60916	712	16	SRA	323	229	94	29	8 absent from posttest 86 discharged	 94

(1) Identify the participants by specific grade level (e.g., grade 3, grade 9). Where several grades are combined, enter the last two digits of the component code.
(2) Identify the test used and year of publication (MAT-70, SDAT-74, etc.).
(3) Number of participants in the activity.
(4) Number of participants included in the pre and posttest calculations found on item#30.
(5) Number and percent of participants not tested and/or not analyzed on item#30.
(6) Specify all reasons why students were not tested and/or analyzed. For each reason specified, provide a separate number count. If any further documentation is available, please attach to this form. If further space is needed to specify and explain data loss, attach additional pages to this form.